

IV.—*Noviciæ Indicæ XVIII. The Asiatic species of Dalbergia.*—

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The writer, at such intervals during the past four years as have offered themselves in the routine of administrative duties, has given attention to the species of the genus *Dalbergia* that occur in S.-E. Asia. In the course of this study he has received much assistance from many friends and has been in hopes of incorporating the results of his investigation in a monograph of at least the Asiatic Species of this genus, so interesting from an economic and so difficult from a taxonomic point of view. Circumstances for the moment forbid the accomplishment of this design. But while it is, at this time, impossible to provide a monograph of the genus which shall be, at least formally, complete, it is a pleasant duty to place at the disposal of members of this Society and of those who have so kindly assisted the writer, a compact review of the notes he has been able to make on collections that have been lent him for study in Calcutta or that he has been able to examine in Herbaria that he has visited. These notes, as embodied in this paper, take the form of a hand-list of the Asiatic species of the genus, with a fairly complete bibliography and a full citation of distribution so far as the specimens in the Collections examined by the writer are concerned. Except in the case of very well-known and obvious species the numbers of sheets, where numbers are given, have been quoted. In spite therefore of its formal incompleteness the list now prepared will probably be found useful, not only by those who may consult the collections on which the list is based, but by those who may be at work in Herbaria that have not yet been accessible to the writer. A list like the present serves, moreover, another purpose; it fulfils the desirable object of, in the words of a Russian proverb, "feeding the wolves and saving the sheep."

The Herbaria examined by the writer on the spot have been those of 1. Calcutta; 2. Kew; 3. British Museum; 4. The type Herbarium of Wallich; 5. the Herbarium of Linnæus; 6. M. Drake del Castillo, Paris; 7. Peradeniya, Ceylon. The collections which have been entrusted to him for examination at Calcutta are those of 8. Herb. Saharanpur, lent by Mr. Duthie; 9. Herb. DeCandolle, Geneva, lent by Mr. DeCandolle, and 10. Herb. Boissier, Geneva, lent by Mr. Barbey; 11. Herb. Beccari, Florence, lent by Sig. Beccari; 12. Herb. Paris, lent by M. Bureau; 13. Herb. Leiden, lent by the late Prof. Suringar; 14. Herb. Berlin, lent by Prof. Engler; 15. Herb. Buitenzorg,

lent by Dr. Treub; 16. Herb. Hong-Kong, lent by Mr. Ford. To all these friends and also to Mr. Bailey who kindly sent specimens of the only *Dalbergia* in the Brisbane Herbarium the writer wishes to express his grateful thanks.

It may be explained that the classification adopted in this list should be considered more or less tentative. The chief point, at this stage, is to arrive if possible at something approaching a definite idea of the various species. This, as will be seen from the quoted synonymy, has long been a desideratum; previous treatises have left many doubts both as to the limits of species and as to the incidence of names. That the present sketch is not without flaws in this respect goes without saying. The opportunities, however, which have been afforded the writer of examining the actual types of most of the doubtful forms have enabled him to settle definitely many if not all the old doubts; any new ones that may arise must be laid to his charge. The leading features of the present system of classification are (1) the reinstatement of Mr. Bentham's very natural subgenus *Triptolemea*, and (2) the limitation of the subgenus *Selenolobium* to those species that have thick corky pods. There is an obvious convenience in keeping alongside of each other three species so clearly and naturally allied as are *D. reniformis*, *D. Kunstleri* and *D. falcata* though, from the fact that the stamens of the first are iso-diadelphous while those of the second and apparently also the third are monadelphous, we have within this section a cleavage on another plane, corresponding exactly to the cleavage between *Dalbergaria* and *Sissoa*. The other species that have been occasionally placed in *Selenolobium* owing to their having hard woody pods, not obviously winged, but that do not have the ventral suture markedly widened in consequence of a corky thickening of the endocarp, are all species that occur on sea-shores or in tidal estuaries and are with hardly an exception confined to such localities. This raises a strong suspicion that the character is a consequence of environment; it is at all events a character that adapts the pods for dispersal by floating. If this suspicion should prove correct the value of the character as a taxonomic one is greatly minimised. Such species have therefore been relegated to those sections in which their characters of corolla and stamens would naturally lead us to place them. Within the subgenus *Sissoa* a new section, that of the *Unguiculatæ*, has been tentatively recognised; it promises to be a useful and appears to be a natural division.

I. *SISSOA* Benth.

1. *Sissoæ veræ*.

1. *DALBERGIA* *SISSOO* Roxb. *Hort. Beng.* 53 (1814); *DC. Prodr.*

ii. 416 (1825); *Roxb. Flor. Ind.* iii. 223 (1832); *Wall. Cat.* 5850 (1832); *W. & A. Prodr.* i. 264 (1834); *Grah. Cat. Bomb. Pl.* 55 (1839); *Voigt, Hort. Suburb. Calcutt.* 241 (1845); *Benth. Journ. Linn. Soc. iv. Suppl.* 40 (1860); *Dalz. & Gibs. Bombay Flora, Suppl.* 24 (1861); *Bedd. Flor. Sylvat.* t. 25 (1869); *Stewart, Panjab Plants* 65 (1869); *Brandis, For. Flor.* 149 (1874); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 231 (1876); *Talbot, Bombay List* 74 (1894); *Gamble, Darjeeling List* 28 (1896).

WILD in gravelly river beds along the foot of the Himalaya from Upper Assam (*Simons! Mann!*) the Duars (*Prain!*) the Terai of Sikkim (*Gamble! Clarke! etc.*), and Nepal (*Wallich!*) to Dehra Dun (*King!*): ascending to 1000 feet in the Eastern Himalaya (*Hooker!*) and to 3000-4000 feet in the North-West Himalaya (*Gamble! Clarke! Schlich!*) and on the North-West frontier and Beluchistan (*Stocks! Lace!*). Wild also in Merwara (*Moir! Brandis!*). Specimens from the Sitapahar Forest Reserve, Chittagong, (*Ellis!*) are probably from planted trees. CULTIVATED everywhere in the plains of Northern, Central, Western and Southern India; occasionally as if wild in Coorg (*Hohenacker n. 785!*) and the Nilgiris (*Wight!*).

2. *DALBERGIA LATIFOLIA* *Roxb. Coromand. Pl.* ii. 7, t. 113 (1798); *Hort. Beng.* 53 (1814); *DC. Prodr.* ii. 416 (1825); *Flor. Ind.* iii. 221 (1832); *Wall. Cat.* 5852 (1832); *W. & A. Prodr.* i. 264 (1834); *Grah. Cat. Bomb. Pl.* 55 (1839); *Voigt, Hort. Suburb. Calcutt.* 240 (1845); *Wight, Ic.* t. 1156 (1852); *Benth. Journ. Linn. Soc. iv. Suppl.* 38 (1860); *Dalz. & Gibs. Bomb. Flor.* 77 (1861); *Bedd. Flor. Sylvat.* t. 24 (*excl. main fig.*) (1869); *Brandis For. Flor.* 148 (1874); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 231 (1876); *Talbot, Bombay List* 74 (1894); *Gamble, Darjeeling List* 29 (1896).

RAJPUTANA: Merwara, *Brandis! Aboo, King!* NEPAL: *Maries!* SIKKIM: *Hooker! Gamble!* CHOTA NAGPUR: *Parasnath, Anderson! Hooker!* Tundi Hills, *Campbell!* Hundrugagh, *Prain!* Palamau, *Gamble!* N. INDIA: *Jacquemont 731! 1386!* BEHAR: *Hooker!* BUNDELKUND: *Edgeworth.* S. INDIA: Madras; *Heyne! Nilgiris, Leschenault 246! Wight 930! Gamble!* Ayamalais, near Coimbatore, *Wight!* Mercara, *Metz (Hohenacher 622)!* W. INDIA: Kala Nadi, *Ritchie!* Concan; *Stocks! Law!* CULTIVATED at Singapore, *Ridley 8444!*

3. *DALBERGIA EMARGINATA* *Roxb. Hort. Beng.* 53 (1814); *Flor. Ind.* iii. 224 (1832); *Voigt, Hort. Suburb. Calcutt.* 241 (1845). *D. sissoides* *Grah. in Wall. Cat.* 5876 (1832); *W. & A. Prodr.* i. 265 (1834); *Benth. Journ. Linn. Soc. iv. Suppl.* 39 (1860); *Bedd. Trans. Linn. Soc.* xxv. 216 (1865). *D. javanica* *Miq. Flor. Ind. Bat.* i. 132 (1855); *Benth. Journ. Linn. Soc. iv. Suppl.* iv. 38 (1860). *D. latifolia* *Kurz, For. Flor. Brit. Burm.* i. 342 (1877); *Koord. & Valet. Bijdr.* ii. 77 (1895) *nec Roxb.*

D. latifolia VAR. *sissooides* *Bedd. Flor. Sylvat.* sub. t. 24 (1869); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 231 (1876).

ANDAMANS: probably north Island, *Kyd (Ic. Roxb.)!* JAVA; *Horsfield! Koorders! Heijer!* S. INDIA: Nilgiris, *Wight 931!* Segur, *Clarke 11305!* Pulneys, near Kodaikanal, *Bourne!* Courtallam, *Wight!*

4. *DALBERGIA SACERDOTUM* *Prain.* A tree, the young twigs soft, blackish, faintly puberulous. *Leaves* 20 cm. long, leaflets 9–11, ovate, base cuneate apex obtuse notched, membranous, finely reticulated, sparsely adpressed-puberulous on both surfaces, 6 cm. long, 3 cm. wide; rachis 15 cm. long and petiolules 4 mm. long finely puberulous. *Flowers* in terminal thyrsoid panicles 8 cm. long 6 cm. wide, the peduncle, branches and slender pedicels rusty-puberulous; bracteoles lanceolate obtuse, membranous, deciduous. *Calyx* campanulate, teeth obtuse, the lowest as long as tube the others shorter. *Petals* short-clawed, standard orbicular hardly thickened at base. *Stamens* 10, monadelphous. *Ovary* shortly stipitate, glabrous except the stipe; ovules 4. *Pod* thinly coriaceous, narrow-ligulate, tapering to the stipitate base, apex acute, glabrous, 3-seeded, 9 cm. long, 1 cm. wide.

CHINA: Shanghai, *Rev. pp. Hélot & d'Argy 75!*

The reverend gentlemen who collected the material on which this very distinct species is based, give its Chinese name as Te-Zü, *i.e.*, "Aloes-Wood." Its nearest ally is *D. Sissoo* as regards pod and *D. emarginata* as regards foliage but it is very different from both.

5. *DALBERGIA OBTUSIFOLIA* *Prain.* *D. ovata* VAR. *obtusifolia* *Bak. in Hook. f. Flor. Brit. Ind.* ii. 231 (1876). *D. glauca* *Kurz, For. Flor. Brit. Burm.* i. 343 (1877), *nec Wall.*

BURMA: Pegu, *Kurz 1784! 2607* in part! Pakehoun, *Brandis 228!* Shan Hills; Madoe and elsewhere, *King's Collectors!* Lower Chindwin, *Collectors of Forest Dept.!* Hukung Valley, *Griffith 1809!* CHINA: Yunnan, near Momien, *J. Anderson!*

Griffith notes this as a "medium tree."

6. *DALBERGIA TONKINENSIS* *Prain.* A small or medium-sized tree. *Leaves* 20–22 cm. long, leaflets 9–11, ovate, base rounded, apex shortly abruptly acuminate, firmly subcoriaceous, very sparingly puberulous when young, soon glabrous, 6–9 cm. long, 3–4 cm. wide; rachis 13–15 cm. long, and petiolules 4 mm. long glabrous; stipules small, tawny-puberulous, deciduous. *Flowers* "white, fragrant," in small, corymbose, axillary panicles 5 cm. long, 3.5 cm. wide. *Pods* firmly coriaceous, ovate or oblong, subacute, distinctly stipitate, 5 cm. long when 1-seeded, 8 cm. long when 2-seeded, 2 cm. wide, distinctly reticulated opposite the seed. *Seed* reniform, compressed, 1 cm. long, 5 mm. wide. *Dalbergia* sp. *Drake del Castillo, Journ. de Bot.* v. 215 (1891).

COCHIN-CHINA: Tonkin, Hanoi; *Balansa* 2184! CHINA: Hainan, *B. C. Henry* 46!

The absence of flowers, which are simply noted by the Rev. Henry as white and fragrant, renders it impossible to locate this species definitely. It appears, however, as if Mr. Drake del Castillo's suggestion as to its affinity might be correct and that it is a *Sissoa*, near *D. ovata* and *D. obtusifolia*.

7. *DALBERGIA OVATA* *Grah. in Wall. Cat.* 5854 (1832); *Benth. in Journ. Linn. Soc. iv. Suppl.* 40 (1860); *Bak. in Hook. f. Flor. Brit. Ind. ii.* 231 (1876); *Kurz, For. Flor. Brit. Burma i.* 343 (1877). *D. glauca* *Wall. Cat.* 5862 (1832).

BURMA: Martaban, *Wallich* 5854! Moulmein, *Wallich* 5862! *Fulconer* 566! *Parish* 340! *Beddome!* Rangoon, *Cleghorn!* Yainway, *Brandis* 1185! Thoungyne, 3000 ft., *Lobb!* Pegu, *Kurz* 1785! 2607 in part! 2610! 2595! COCHIN-CHINA: route between Saigon and Bienhoa, *Lefèvre* 320!

Beddome notes this as a "large tree."

8. *DALBERGIA FOLIACEA* *Wall. Cat.* 5856 partly (1832); *Benth. Journ. Linn. Soc. iv. Suppl.* 41 (1860); *Bak. in Hook. f. Flor. Brit. Ind. ii.* 232 (1876); *Kurz, For. Flor. Brit. Burma i.* 347 (1877).

BURMA: Martaban, *Wallich!* Palang Creek, *Wallich!* Pegu, *Kurz* 2602! Rangoon, *Cleghorn* 25! Shan Hills, *Prazer* 210! 233! *Abdul Huq!* Tenasserim, *Helper* 1806! SIAM: borders of the Great Lake, *Godefroy* 686!

Wallich's n. 5865 is much mixed. Letter A. is a mélange of *D. foliacea*, *D. stipulacea*, *D. candanensis* and *D. volubilis*; B. is a mixture, probably by mistake, of *D. rimosa* and *D. volubilis*; C. is *D. foliacea*; D. is *D. foliacea*; E. is *D. stipulacea*. The mixture of *D. rimosa* with *D. foliacea*, which in most collections has taken place under B, has in *Herb. De Candolle* been made by *Wallich* under D. That it is in all probability a mistake in distributing may be admitted; *D. rimosa* does not occur in Southern Burma where *D. foliacea* grows. The other mistakes are mistakes of identification on *Dr. Wallich's* part.

9. *DALBERGIA YUNNANENSIS* *Franch. Pl. Delavay.* 187 (1890).

CHINA: Yunnan, near *Tapintze*, *Delavay* 654! 510! 2050! *Yen-tze-hay*, *Delavay* 3333! *Mengtze*, *Henry* 10205!

10. *DALBERGIA VELUTINA* *Benth.* var. *typica* *Prain, Journ. As. Soc. Beng.* lxi. 2. 117 (1897). *D. velutina* *Benth. Pl. Jungh.* i. 255 (1854); *Journ. Linn. Soc. iv. Suppl.* 43 (1860); *Bak. in Hook. f. Flor. Brit. Ind. ii.* 233 (1876); *Kurz, For. Flor. Brit. Burma i.* 348 (1877). *D. stipulata* *Wall. Cat.* 5868 (1832). *Cassia timorensis* *H. f. & T. Herb. Ind. Or., partly.*

ASSAM: *Silhet*, *de Silva!* *Hooker & Thomson!* BURMA: Moulmein,

Wallich! Amherst, *Brandis!* Rangoon, *Kurz!* Pegu, *Kurz!* Tenasserim, *Helfer* 1804! MALAYA: Malacca, *Maingay* 548!

VAR. *Maingayi* Prain, *Journ. As. Soc. Beng.* lxvi. 2. 117 (1897).

BURMA: Mergui, *Griffith* 1798! Tenasserim, *Helfer* 1804! MALAYA: Malacca, *Maingay* 612! Singapore, *Ridley* 6086! 5923! Borneo, *Haviland* 1444!

Helfer 1804 in Herb. Berlin is typical *D. velutina*. In Herb. Paris the same number is attached to a specimen of VAR. *Maingayi*. The Bornean plant may be varietally distinct.

11. DALBERGIA BORNEENSIS Prain. A long climber with perfectly glabrous branches. *Leaves* 8–12 cm. long, leaflets 7–9, oblong, obtuse, mucronulate, membranous, quite glabrous on both surfaces, 2.5 cm. long, 1.25 cm. wide, the terminal more cuneate at base and slightly larger than the others; stipules large, sparingly puberulous or glabrous; rachis 8 cm. long and petiolules 2.5 mm. long glabrous. *Flowers* in lax lateral panicles with corymbose branches 6 cm. long, 4 cm. wide, the peduncles, branches and pedicels glabrous or very sparingly puberulous, bracts and 2 bracteoles at base of calyx narrowly subulate, puberulous. *Calyx* 4 mm. long, puberulous, campanulate, base slightly gibbous, teeth acute subequal, upper pair wider than the three lanceolate lowest. *Corolla* white, petals with claws as long as calyx-tube, standard orbicular, emarginate, reflexed. *Stamens* usually 10, in one bundle slit along top. *Ovary* long-stipitate, glabrous, style subulate; ovule usually solitary. *Pod* thinly coriaceous, pale straw-coloured, finely uniformly reticulated throughout, 1-seeded. *Seed* markedly reniform, 1.25 cm. long, 5 mm. wide, 1.2 mm. thick.

MALAYA: Borneo, near Kuching, *Haviland* 2889! Kalong, *Haviland* 2890!

12. DALBERGIA DYERIANA Prain. A large climber, with slender, blackish, glabrous branches, branchlets occasionally hooked. *Leaves* 8–12 cm. long, leaflets 11–15, obovate-oblong, base cuneate, apex rounded retuse, thinly coriaceous, finely closely reticulate, sparsely adpressed-pubescent beneath, 2.5–3 cm. long, 1–1.25 cm. wide, rachis 7–9 cm. long and petiolules 2.5 mm. long glabrous or sparsely adpressed-pubescent. *Flowers* white, in lax few-flowered axillary panicles 5 cm. long, 3 cm. wide, rachis, branches and pedicels 3 mm. long puberulous. *Calyx* puberulous, campanulate, teeth triangular, obtuse, shorter than tube except the lowest subacute almost as long as tube. *Petals* with claws as long as calyx-tube. *Stamens* 9, monadelphous. *Ovary* stipitate, glabrous except the puberulous stipe; ovules 2–3. *Pod* 1–2-seeded, thinly coriaceous, linear-oblong, 6.5 cm. long when 1-seeded 9 cm.

long when 2-seeded, 1.5 cm. wide, distinctly reticulated opposite the seeds.

CHINA: Hupeh, *Henry* 3437! 4132! 4138! 4561! Szechuen; Ky-min-se, *Farges* 1076! Yunnan; Mengtze, *Henry* 10503!

Farges gives the Chinese name as "Ta-kang-kin-ten."

13. *DALBERGIA CULTRATA* *Grah. in Wall. Cat.* 5861 (1832); *Benth. Journ. Linn. Soc. iv. Suppl.* 39 (1860); *Bak. in Hook. f. Flor. Brit. Ind. ii.* 233 (1876); *Kurz, For. Flor. Brit. Burma i.* 342 (1877). *D. zeylanica* *Wall. Cat.* 5847 B (1832), *nec Roxburgh.*

BURMA: Pegu, *Kurz* 1787! 2609! *Wallich!* *McClelland!* *Brandis!* Shan Hills, *Collett* 406! *King's Collector!* *Prazer!* Tenasserim, *Gallatly!* Trogla, near the hills, *Wallich* 5847 B! SIAM: Radboerie, *Teysmann* 6027!

2. *Sissoë unguiculatæ.* Standard with a long claw.

14. *DALBERGIA HAVILANDI* *Prain.* A small tree with blackish, rugose, rusty-puberulous, thickish branchlets. *Leaves* 7-10 cm. long, leaflets 1-3, when three the two lateral subopposed, ovate, obtuse or subacute, base truncate, firmly coriaceous, pubescent especially on the nerves above, velvety beneath, 5-8 cm. long, 2.5-4 cm. wide, secondary nerves 4-5 pairs, much curved forwards distinct beneath; rachis 1.25-2.5 cm. long, densely velvety as are the petiolules 3.5 mm. long. *Flowers* in short, clustered racemes 1.25-2.5 cm. long, springing from tufts of triangular, rusty-velvety bracts in axils of old leaves, lowest pedicels longest, slender, 5 mm. long, tawny-pubescent as are the peduncles; bracts at base of pedicels solitary, ovate-lanceolate, 1.5 mm. long, persistent, the bracteoles below the calyx solitary, subulate, very small. *Calyx* campanulate, tawny-tomentose, 3.5 mm. long, teeth acute, half as long as tube. *Corolla* white, claws of petals as long as calyx-tube. *Stamens* 9, monadelphous, slit along upper side or occasionally (*vide Haviland*) in 2 bundles of 5 and 4 respectively. *Ovary* densely pubescent as is its stipe; ovules 2. *Pod* not seen.

BORNEO: Sarawak, near Kuching, *Haviland* 2894! 2895!

15. *DALBERGIA HULLETTII* *Prain, Journ. As. Soc. Beng. lxvi.* 2: 119 (1897).

SINGAPORE: *Hullett* 626!

16. *DALBERGIA ROSTRATA* *Grah. in Wall. Cat.* 5867 (1832). *D. Sissoo* *Miq. Flor. Ind. Bat. i.* 128 (1855) *nec Roxb.* *D. pseudo-Sissoo* *Miq. Flor. Ind. Bat. i.* 128 (1855); *Prain, Journ. As. Soc. Beng. lxvi.* 2: 118 (1897). *D. Championii* *Thwaites, Enum. Pl. Zeylan.* 95 (1860); *Benth., Journ. Linn. Soc. iv. Suppl.* 39 (1860); *Bak. in Hook. f. Flor. Brit. Ind. ii.* 231 (1876); *Trimen, Handbook of Ceylon Flora ii.* 88 (1894).

D. nitida Zipp. Mss. in Herb. Lugd.-Bat. Endospermum zeylanicum Champ. Mss. in Herb. Peradeniya.

S. INDIA: Tinnivelly, at foot of Ghauts on banks of the river Tambraparni, *Beddome* 2424! CEYLON: moist regions, 2000–4000 ft., *Thwaites* 761! JAVA: *Blume!* *Zippel!* *Hasskarl!* BORNEO: Sarawak, Gunong Woh, *Beccari* 2845! Igau, *Beccari* 3906! 3908! Sungei Unpanang, *Beccari* 3379! Singkawang, *Teysmann* 7875! Kuching, *Haviland* 2111! CELEBES: S.-E. Peninsula, at Lepo-Lepo, near Kandari, *Beccari!* MALAY PENINSULA: Perak; Larut, *Kunstler* 3177! 3340! 3579! 4964! 6565! *Scortechini* 1348! *Wray* 2098! 2965! Penang; Govt. Hill, *Curtis!* Singapore; Bukit Mandai and elsewhere, *Hullett!* *Ridley!*

17. DALBERGIA KINGIANA *Prain, Journ. As. Soc. Beng.* lxxvii. 2. 289 (1898).

BURMA: Kachin Hills, *Shaik Mokim!*

18. DALBERGIA HENRYANA *Prain.* A large woody climber with rusty-pubescent young branches. *Leaves* 12 cm. long, leaflets 4–5, ovate, acute, base cuneate or rounded, coriaceous, glabrous above, softly densely pubescent beneath, terminal the largest 7 cm. long, 3.5 cm. wide; rachis 6 cm. and petiolules 3.5 mm. rusty-puberulous. *Flowers* white, in loose panicles 10 cm. long, with rusty-pubescent main-rachis and branches 3 cm. long; pedicels rusty, 3 mm. long; bracts and bracteoles small, ovate, rusty-pubescent. *Calyx* campanulate, densely rusty-pubescent, 4.5 mm. long, teeth subequal triangular. *Petals* with claws as long as calyx. *Stamens* 9, monadelphous. *Ovary* pubescent, with long pubescent stipe; ovules usually 2. *Pod* not seen.

CHINA: Yunnan, at Mengtze, *Henry* 11248!

19. DALBERGIA BENTHAMI *Prain, Journ. As. Soc. Beng.* lxxvii. 2. 289 (1898). A woody climber, branches black, glabrous. *Leaves* 12–14 cm. long; leaflets 5–7, ovate or oblong-elliptic, narrowed to the obtuse or retuse apex, base cuneate or rounded, coriaceous, glabrous above, glaucescent and finely adpressed-puberulous beneath, terminal the largest 5 cm. long, 2.5 cm. wide; rachis 8 cm. long and petiolules 4 mm. long glabrous. *Flowers* in short, axillary, rusty-pubescent panicles 3.5 cm. long, branches 1 cm. long, pedicels 3 mm. long; bracts and bracteoles ovate, deciduous, rusty-pubescent. *Calyx* campanulate, densely rusty-tomentose, 4 mm. long, the 3 lower teeth narrow-ovate, rather longer than the two wider upper. *Petals* with claws as long as calyx. *Stamens* 9, monadelphous. *Ovary* glabrous, stipitate; ovules usually 3. *Pod* glabrous, long stipitate, thinly coriaceous, ligulate, 1–2-seeded, 5–7 cm. long, 2 cm. wide, faintly reticulate opposite the compressed, reniform seed. *D. rubiginosa* *Benth., Flor. Hongkong.* 93 (1861) *non Roab.*

CHINA: Hongkong, *Hance* 1053! *Wilford!* *Wright* 140! *Ford!* *Seemann!* *Bodinier!* *Urquhart!* *Harland!*

20. DALBERGIA GARDNERIANA Benth., *Journ. Linn. Soc. iv. Suppl.* 42 (1860); Prain, *Journ. As. Soc. Beng. lxi. 2. 444* (1897). *D. congesta* Bak. in *Hook. f. Flor. Brit. Ind. ii. 232* (1876) *partim, nec Benth.*

S. INDIA: Nilgiris, Gardner! Metz (Hohenacker 1591)! Wight 824! G. Thomson! Clarke 11129! Gamble 13176! 14501! Perrottet 469!

21. DALBERGIA RUBIGINOSA Roxb. *Coromand. Pl. ii. 9, t. 115* (1798); *Hort. Beng. 98* (1814); *DC. Prodr. ii. 416* (1825); *W. & A. Prodr. i. 265* (1834); Benth., *Journ. Linn. Soc. iv. Suppl. 43* (*excl. ref. China*) (1860); Bak. in *Hook. f. Flor. Brit. Ind. ii. 232* (1876); Prain, *Journ. As. Soc. Beng. lxi. 2. 443* (1897).

W. INDIA: Concan, Stocks! Wight 823! 924! Canara, Talbot 70! 1182! 1867! 3594!

22. DALBERGIA CONGESTA Grah. in *Wall. Cat. 5872* (1832); *W. & A. Prodr. i. 265* (1834); Benth. in *Journ. Linn. Soc. iv. Suppl. 43* (1860); Bak. in *Hook. f. Flor. Brit. Ind. ii. 232* (*excl. syn. D. Gardneriana*) (1876).

S. INDIA: Coonoor, 6000 ft. Brandis! Gamble 11694! Prain!
UPPER BURMA: Chin Hills, Präzer!

23. DALBERGIA Densa Benth., *Lond. Journ. Bot. ii. 217* (1843); *Journ. Linn. Soc. iv. Suppl. 43* (1860); *Flor. Austral. ii. 271* (1864).

MALAY ARCHIPELAGO: Amboina, Teysmann 5120! Key Islands, Ke-teil at Tual, Beccari! New Guinea; without locality, Hinds! Island of Jobie, Barclay! Kaiser Wilhelmsland, Hollrung 84! 174! 477!
AUSTRALIA: Queensland, von Mueller! Bailey! Possession Island, R. Brown! Prince of Wales Island, R. Brown! Torres Straits, Moseley! Albany Island, Hill!

24. DALBERGIA BURMANICA Prain, *Journ. As. Soc. Beng. lxi. 2. 448* (1897).

BURMA: Ruby Mines District, King's Collectors! Chin Hills, C. R. Dun 50!

25. DALBERGIA JAHERII Buerck Mss. in *Herb. Bogor.* A large shrubby climber with glabrous branches. Leaves 5–8 cm. long; leaflets 15–23, ovate-oblong, base faintly obliquely cuneate, apex rounded slightly emarginate, chartaceous, green above slightly glaucescent beneath, finely sparsely adpressed-pubescent on both surfaces, 3 cm. long, 1.25 cm. wide, rachis 8–10 cm. long, and petiolules 4 mm. long glabrous. Flowers in congested axillary panicles 3 cm. long, 2 cm. wide, rachis and branches puberulous, pedicels 3 mm. long, puberulous; bracts and 2 bracteoles under the calyx ovate, puberulous. Calyx campanulate, glabrescent, 4 mm. long, teeth short, triangular, obtuse. Corolla white, 8 mm. long, claws of petals as long as calyx-tube, standard ovate, reflexed. Stamens 10, monadelphous, sheath slit along upper side.

Ovary glabrous, long-stalked, style subulate; ovules 2. *Pod* narrow-oblong, rather firmly coriaceous, with rounded apiculate tip, distinctly stipitate, usually 2-seeded, 5-6 cm. long, 1.25 cm. wide.

MALAYA: Key Islands, *Warburg* 20312! Key Toewal, *Jaher*! Also cult. in Hort. Bogor, introduced from Key Toewal!

Most nearly related to *D. polyphylla* and *D. tamarindifolia* but very distinct from both.

26. DALBERGIA POLYPHYLLA *Benth. Journ. Linn. Soc. iv. Suppl. 44 calculating the Bornean plant* (1860). *D. polyphylla Benth. Pl. Jungh. i. 256, in part; the Philippine plant only* (1854).

PHILIPPINES: Luzon, *Cuming* 1164! *Vidal* 2589!

Specimens of this in Herb. Berol. and Herb. De Candolle have been kindly lent for study; the writer has also seen those at Kew and the British Museum. The species is a very distinct one, nearest to *D. tamarindifolia*. The two plants referred to the same species at different times by Mr. Bentham are both *Triptolemez*, one is *D. Millettii* Benth., a Chinese species, the other is *D. phyllanthoides* Bl., a Malayan one.

Vidal gives the vernacular name as "Payasi."

27. DALBERGIA ACACIÆFOLIA *Dalz. in Kew Journ. ii. 37* (1850). *D. tamarindifolia* VAR. *acaciæfolia Bak. in Hook. f. Flor. Brit. Ind. ii. 235* (1876).

WESTERN INDIA: Concan, *Law*! N. Canara, *Talbot* 3588! Tinnivelly Hills, *Naidoo*!

A very distinct species, differing from *D. tamarindifolia*, to which it is most closely allied, in its foliage, the leaflets being glaucous beneath; and in its larger, firmly coriaceous pod.

28. DALBERGIA MALABARICA *Prain.* A shrubby climber with densely rusty-pubescent young branches. *Leaves* 9-10 cm. long; leaflets 21-31, thinly pubescent above, densely tomentose beneath, crowded, elliptic-oblong, hardly or not oblique at the base, 1.25 cm. long, 6-7 mm. wide, moderately firm; rachis 8-9 cm. long densely pubescent, petiolules very short and lanceolate stipules densely rusty-pubescent. *Flowers* with the leaves, in congested, sessile, axillary corymbs 1.5 cm. long, 6 mm. wide; peduncles densely pubescent, pedicels glabrous; bracts triangular-ovate, persistent, and bracteoles 2 below calyx lanceolate, persistent, pubescent. *Calyx* campanulate, glabrous except on the margins of the teeth, 4 mm. long, teeth nearly as long as tube, the two upper connate obtuse, the others lanceolate acute. *Corolla* white, 8 mm. long, claws of petals as long as calyx-tube, standard ovate, entire, reflexed. *Stamens* 9, monadelphous. *Ovary* glabrous except along the upper suture, stipe distinct pubescent; style filiform; ovules 2. *Pod* ovate-oblong, very thinly coriaceous, glabrous, long stipitate, 3 cm.

long, 1.5 cm. wide, distinctly reticulately veined especially opposite the seed. *D. tamarindifolia* VAR. *pubescens* Bak. in *Hook. f. Flor. Brit. Ind.* ii. 235 (1876).

WESTERN INDIA: Concan, *Stocks!* Canara, *Talbot* 408! 3665! Quilon, *Wight!* S. Tinnivelly, *Beddome!*

Though placed with *D. tamarindifolia* by Mr. Baker this is very distinct by its leaflets, which are hardly if at all oblique at the base, and by its different pods.

29. DALBERGIA TAMARINDIFOLIA *Roxb. Hort. Beng.* 53 (1814); *Flor. Ind.* iii. 233 (in part) (1832); *Wall. Cat.* 5870 (1832); *Wight Icon.* t. 242 (excl. fruit) (1840); *Voigt, Hort. Suburb. Calcutt.* 241 (1845); *Miq. Flor. Ind. Bat.* i. 131 (1855); *Benth. Journ. Linn. Soc. iv. Suppl.* 44 (1860); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 234 (1876); *Kurz, For. Flor. Brit. Burma* i. 348 (1877); *Prain, Journ. As. Soc. Beng.* lxxvi. 2. 117 (1897). *D. rufa* *Grah. in Wall. Cat.* 5864 (1832). *D. multijuga* *Grah. in Wall. Cat.* 5865 (1832); *Zoll. et Mor. Verzeichn.* 2 (1845). *D. Blumei* *Hassk. Cat. Hort. Bogor.* 284 (1844); *Pl. Jav. Rar.* 400 (1848).

HIMALAYA: Nepal, *Wallich!* Sikkim, *Hooker!* *Lister!* ASSAM: Brahmaputra Valley, *Watt!* *Simons!* *Peal!* *Jenkins!* *Mann!* *Clarke!* Silhet, *Gomez!* CHITAGONG: Kodala, *King's Collector!* BURMA: Tenasserim, *Wallich!* *Griffith!* *Helfer!* *Falconer!* ANDAMANS: S. Andaman, common; Barren Island, *Prain!* CHINA: Yunnan, Taping Valley, *J. Anderson!* MALAYA: Langkawi, *Curtis!* Perak, *Scortechini!* *Wray!* *Kunstler!* Penang, *Wallich!* Malacca, *Maingay!* *Derry!* Sumatra, *Korthals!* *Forbes!* Java, *Horsfield!* *Ploem!* *Zollinger!* Borneo, *Korthals!* *Motley* 262! *Creagh!* *Haviland!* PHILIPPINES: Luzon, *Vidal* 250!

The native name given for this by Hasskarl is Aroy Tjetjereha or "climbing Tamarind." In *Hort. Bogor* at present this name connotes *D. phyllanthoides* Bl., which is in cultivation there under the name *D. littoralis* Hassk.

3. *Sissoë unguiculatæ Pseudoselenolobiæ.*

30. DALBERGIA CANDENATENSIS *Prain.* *Cassia candenatensis* *Dennst. Schl. zum Hort. Malabar.* 12 (1818). *Dalbergia torta* *Grah. in Wall. Cat.* 5873 (1832); *Prain, Journ. As. Soc. Beng.* lxxvi. 2. 120 (1897). *D. monosperma* *Dalz. Hook. Journ. Bot.* ii. 36 (1850); *Miq. Flor. Ind. Bat.* i. 132 (1855); *Benth. Journ. Linn. Soc. iv. Suppl.* 48 (1860); *Dalz. & Gibs. Bomb. Flor.* 78 (1861); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 337 (1876); *Talbot, Bombay List* 75 (1894). *Drepanocarpus monospermus* *Kurz, For. Flor. Brit. Burm.* i. 337 (1877).—*Karin Tagera* *Rheede, Hort. Malabar.* vi. 25.

W. INDIA: Concan, *Stocks!* *Law!* Malabar, *Rheede* (Ic.)! Quilon, *Wight* 820! CEYLON: Pandure, Trincomali and Kodyar, *Thwaites!* *Trimen!* BENGAL: Sundribuns, *Clarke* 33423! *Heinig!* ANDAMANS:

Narcondam, *Prain* ! S. Andaman, very common, *King's Collectors* ! BURMA : Amherst, *Falconer* ! Kalian river, Martaban, *Wallich* ! Mergui, *Griffith* 1799 ! COCHIN-CHINA : between Saigon and Cholen, *Lefèvre* 132 ! Annam, Haton, *Godefroy* 753 ! Tonkin, *Balansa* 1202 ! MALAYA ; Langkawi, *Curtis* 2868 ! Penang, *Wallich* 5873 ! *Curtis* 220 ! Perak, coast, *Scortechini* 1099 ! *Wray* 2502 ! Malacca, at Tanjong Kling, *Ridley* 3312 ! Singapore, *Wallich* ! *Kurz* ! *T. Anderson* ! *Kunstler* 66 ! *Ridley* 5576 ! *Wichura* 656 ! Sumatra ; Indrapura, *Korthals* ! *Miller* 1778 ! Biliton, at Blimbong, *Teysmann* ! Borneo ; Sarawak, Matong, *Beccari* 2526 ! Igau, *Beccari* 3905 ! Bintulu, *Haviland* 2892 ! Celebes ; S.-E. Peninsula, Lepo-Lepo near Kandari, *Beccari* ! Moluccas ; Amboina, *Forster* ! Ceram Laut, *Forster* ! *Warburg* 20311 ! New Guinea ; *Forbes* ! PHILIPPINES : Luzon, Batangos, *Cuming* 1542 ! *Vidal* 2605 ! Manila, *Cuming* 1541 ! CHINA : Little Hongkong, *Ford* ! Hongkong, *Hance* ! POLYNESIA : Fiji, *Seemann* 128 ! Tonga Isds. at Vavau, *Croottz* 39 ! N. Caledonia, *Pancher* 44 ! *Deplanche* 336 ! *Veillard* 2927 ! AUSTRALIA : Cape York, *Damel* ! Rockingham Bay, *Dallachy* ! Port Darwin, *Schultz* 744 !

Miquel reports the species also from Bangka ; it is curious that it has never apparently been collected in the Sunda Archipelago or in Java. The only specimens from Java that I have seen are from plants cultivated in the Buitenzorg Garden Hort. *Bogor*. nn. 854 ! 2692 !

Godefrey gives the Annamese name as " Cayme mûk " and the Cambodian as " Baï tuk."

31. DALBERGIA MENOEIDES *Prain*, *Journ. As. Soc. Beng.* lxxvi. 2. 120 (1897) and 453 (1897).

MALAYA : Perak, *Scortechini* 1392 !

II. DALBERGARIA Benth.

4. *Dalbergariæ*.

32. DALBERGIA GLOMERIFLORA *Kurz*, *Journ. As. Soc. Beng.* xlii. 2. 70 (1873) ; *Bak. in Hook. f. Flor. Brit. Ind.* ii. 236 (1876) ; *Kurz, For. Flor. Brit. Burma* i. 345 (1877).

BURMA : Prome, *Kurz* 2611 !

33. DALBERGIA CANA *Grah. in Wall. Cat.* 5859 (1832) ; *Kurz in Journ. As. Soc. Beny.* xlii. 2. 70 (1873) *Bak. in Hook. f. Flor. Brit. Ind.* ii. 237 (1876) ; *Kurz, For. Flor. Brit. Burma* i. 344 (1877) ; *Prain, Journ. As. Soc. Beng.* lxxvi. 2. 450 (1897). *D. purpurea* *Wall. Cat.* 5869 (1832) ; *Benth. in Journ. Linn. Soc.* iv. *Suppl.* 46 partly (1860) ; *Bak. in Hook. f. Flor. Brit. Ind.* ii. 235 partly (1876).

BURMA : Tenasserim, *Wallich* 5859 ! 5869 ! Pegu, *Brandis* ! *Kurz* 1779 ! 2601

34. DALBERGIA KURZII *Prain*, *Journ. As. Soc. Beng.* lxxvi. 2. 450 (1897). *D. purpurea* *Kurz, Journ. As. Soc. Beng.* xlv. 2. 279 *excl. cit.*

Wall. Cat. 5869 (1875); For. Flor. Brit. Burma i. 344 (1877); not of Wall.

BURMA: Pegu, McClelland 8! Brandis 1170! Kurz 1780! 1783! 2603! 2603! Kalay Hills, Prazer! Shan Hills, Alpin! Ruby Mines Dist., King's Collector!

35. *DALBERGIA PANICULATA* Roxb. Cor. Pl. ii. 8, t. 114 (1798); Hort. Beng. 53 (1814); DC. Prodr. ii. 417 (1825); Spreng. Syst. iii. 193 (1826); Roxb. Flor. Ind. iii. 227 (1832); Wall. Cat. 5848 partly (1832); W. & A. Prodr. i. 265 (1834); Grah., Cat. Bomb. Pl. 55 (1839); Benth., Journ. Linn. Soc. iv. Suppl. 45 (1860); Dalz. & Gibs. Bomb. Flor. 78 (1861); Bedd. Flor. Sylvat. t. 88 (1869); Brandis, For. Flor. 151 (1874); Bak. in Hook. f. Flor. Brit. Ind. ii. 236 (1876); Talbot, Bombay List 75 (1894); Prain, Journ. As. Soc. Beng. lxvi. 2. 449 (1897). *D. nigrescens* Kurz, Pegu Rep. App. A 48 (1875); For. Flor. Brit. Burma i. 346 (1877).

S. INDIA: Circars, Roxburgh! Mysore, Heyne! G. Thomson! Columala, Wight! Cuddapah, Naidoo! Gamble 10867! Travancore, Lawson! W. INDIA: Concan, Gibson! Stocks! Canara, Talbot! BURMA: Pegu, Eyre! Kurz 2618! Upper Burma, Griffith 1810! King's Collectors! J. Anderson! Shan Hills, King's Collectors!

36. *DALBERGIA SERICEA* G. Don, Gen. Syst. ii. 375 (1832). *D. robusta* Wall. Cat. 5849 A (1832); not of Roxb. *D. hircina* Wall. Cat. 5871 B (1832); Benth. Journ. Linn. Soc. iv. Suppl. 46 (1860); Bak. in Hook. f. Flor. Brit. Ind. ii. 236 (1876); Gamble, Darjeeling List 29 (1896); Prain, Journ. As. Soc. Beng. lxvi. 2. 449 (1897); not of Ham. *D. stenocarpa* Kurz, Journ. As. Soc. Beng. xlv. 2. 205 (1875); Bak. in Hook. f. Flor. Brit. Ind. ii. 238 (1876). *D. emarginata* Royle Mss. in Herb. Kew; not of Roxb. *D. assamica* Benth. Journ. Linn. Soc. iv. Suppl. 45 in part (as to the Subsewalik locality only) (1860); Bak. in Hook. f. Flor. Brit. Ind. ii. 235 partly (1876).

HIMALAYA: Garhwal, King! Duthie! Kamaon, Strachey & Winterbottom 3! T. Thomson! Wallich! Royle! King! Duthie! MacKinnon! Nepal, Wallich! Hamilton! Sikkim, Gamble! Lister! Gammie! Clarke! Prain! Bootan, Griffith 1812! Gamble! Alipur Duars, Heawood!

Two names were indirectly made available for this very distinct species by Dr. Wallich. These are *D. robusta* Wall., given by that botanist under the mistaken belief that this was the same as Roxburgh's *D. robusta* which is a *Derris*, and *D. hircina* used under the mistaken impression that this is what Hamilton intended by *D. hircina*. Though aware that this also was a mistake, Mr. Bentham has chosen the latter as the preferable name. Fortunately, though this was not known to Mr. Bentham, there is another name, *D. sericea* G. Don, which dates from the same year and has the advantage of being accompanied by a description; it therefore supersedes both the others.

Mr. Baker has apparently seen an example of Wall. Cat. 5849 A which is =

D. lanceolaria Linn. f.; the writer has not seen one. In any case Wall. Cat. 5 A at the Linnean Society's rooms (Wallich's type Herbarium) is *D. sericea*.

Dalbergia hircina Ham., as written up by Hamilton himself (in Herb. Brit. Museum), on two specimens collected at Darhora 12th Apl., 1811, and at Sukhya 23rd Aug., 1809, is *D. lanceolaria*. The type of *D. sericea* G. Don, as shown by a specimen from Herb. Lambert named by G. Don himself, and now in the British Museum collection, was also collected by Hamilton. On this Hamilton has noted "Dalbergia? A tree; Cheria ghaut Hills 31-3-1802." It is this that has, in Wall. Cat. 5871 B, been erroneously written up by Wallich as *D. hircina*.

37. DALBERGIA LANCEOLARIA Linn. f. *Suppl.* 316 (1781); *DC. Prodr.* ii. 417 (1825); *Benth., Journ. Linn. Soc. iv. Suppl.* 45 (1860); *Dalz. & Gibs., Bomb. Flor.* 78 (1861); *Brandis, Flor. Flor.* 151 (1874); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 235 (1876); *Talbot, Bombay List* 74 (1894). *D. frondosa* Roxb. *Hort. Beng.* 53 (1814); *DC. Prodr.* ii. 417 (1825); *Roxb. Flor. Ind.* iii. 226 (1832); *Wall. Cat.* 5855 (1832); *W. & A. Prodr.* i. 266 mainly (1834); *Grah., Pl. Bombay* 55 (1839); *Wight Icones* t. 266 (1840); *Voigt, Hort. Suburb. Calcutt.* 241 (1845); *Bedd., Flor. Sylvat.* t. 88 (1869). *D. zeylanica* Roxb. *Hort. Beng.* 53 (1814); *Flor. Ind.* iii. 228 (1832); *Wall. Cat.* 5847 A (1832); *Voigt, Hort. Suburb. Calcutt.* 241 (1845). *D. arborea* Heyne in *Roth. Nov. Sp.* 330 (1821); *DC. Prodr.* ii. 417 (1825). *D. hircina* Ham. in *Wall. Cat.* 5871 A (1832).

N. INDIA: Hardwar, Hamilton! King! T. Thomson! Darhora, Hamilton! Sukhya, Hamilton! Rajputana, Abu, King! Ajmir, Jacquemont! Moir! Brandis! C. India; Jerdon! Chota Nagpur, Gamble! Haines! Campbell! Clarke! Wood! Prain! Behar, Hooker! Kurz! W. INDIA: Concan, Stocks! Law! Canara, Talbot! Belgaum, Ritchie! S. INDIA: Madras, Heyne! Roxburgh! Mysore, G. Thomson! Vellore, Gamble! Kurnool, Gamble! Tellicherry, Metz (Hohenacker 723)! Wight 927! Cottulam, Leschenault 191! Shevarois, Perrottet! CEYLON: Thwaites 1496! CULTIVATED at Bourbon, Richard!

Letter A of Wallich's *Dalbergia robusta*, reduced to this by Mr. Baker, is *D. sericea* G. Don (= *D. hircina* Benth. and Bak. not of Ham.). Wight and Arnott have mainly *D. lanceolaria* under *D. frondosa*, but one of their quoted sheets, Wight n. 928, is *D. paniculata*. Leschenault in Herb. Paris gives the native name of this as "Toda cotty morum."

38. DALBERGIA ASSAMICA Benth. *Pl. Junghuhn.* i. 255 (1854); *Journ. Linn. Soc. iv. Suppl.* 45 partly, the Assam locality only (1860); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 235 partly, the Assam locality only (1876); *Prain, Journ. As. Soc. Beng.* lxxvi. 2. 449 (1897). *D. lanceolaria* Gamble, *Darjeeling List* 29 (1896) not of Linn. f.

SIKKIM: Narchu Valley Prain! Prain's Collector! ASSAM: Brahmaputra Valley, Griffith K.D. 1803! Hooker & Thomson! Masters! Peal! Watt! Jenkins 54!

This is a fine tree, known in Assam as "Medeloa." The Subsiwalik specimens collected by Edgeworth and included in this species by Bentham prove, on examination, to belong to *D. sericea* G. Don. (= *D. robusta* Wall. not Roxb. = *D. hircina* Benth. not Ham.).

39. *DALBERGIA HUPEANA* Hance, *Journ. Bot.* xx. 5 (1882); *Forbes & Hemsl., Journ. Linn. Soc.* xxiii. 198 (1887).

CHINA: Ichang; *Walters! Henry 3670! 4558! 3112! 4932! Ningpo; Oldham! Cooper! Faber! Kwangtung; Sampson! Ford! Carles 556! Nant'o, Carles 287! E. Szechuen; Farges 1213! Yang-tze-kiang, Faber!*

This Farges terms "Tan-mou-chou," the wood being "Tchan-Keou." Cooper says "Paitan" is the local, "white Chandan" the classical name. Henry, on n. 3670 at Kew, calls it the Tân tree.

40. *DALBERGIA WATTII* Clarke, *Journ. Linn. Soc.* xxv. 17, t. 5 (1889); *Prain, Journ. As. Soc. Beng.* lxvi. 2. 451 (1897).

MANIPUR: Metaiphum, 5000 ft., *Watt 6830! Mayung, 3500 ft., Clarke 42034!*

41. *DALBERGIA OLIVERI* Gamble *ex Prain in Journ. As. Soc. Beng.* lxvi. 2. 451 (1897). *D. paniculata* Kurz, *For. Flor. Brit. Burm.* i. 345 (1877) *not of Roxb.* *D. purpurea* Bak. in *Hook. f. Flor. Brit. Ind.* ii. 235 *partly and as to Pegu specimens only* (1876); *Prain, Journ. As. Soc. Beng.* lxvi. 2. 449 (1897).

BURMA: Pegu, *Kurz 1781! 2604! Wuntho and Bhamo, J. W. Oliver! Collectors of Forest Dept.!*

The recent receipt of fruiting specimens and oldish leaves of "Tamalan" (*D. Oliveri* Gamble) shows that this tree is the same as the "Tabou-ben" of Kurz's Flora (*D. paniculata* Kurz, not of Roxb.) and further settles finally a very troublesome question that had arisen regarding the incidence of the name *D. purpurea*.

In the Linnean Society's Herbarium (Wallich's type herbarium) and in all the other herbaria seen by me *D. purpurea* Wall. is = *D. cana* Grah., except at Kew where there is mixed with *D. cana* some *D. volubilis*. Bentham's *D. purpurea*, which is based on that material, is thus a mixture of *D. cana* and *D. volubilis*, while to these species Mr. Baker, in the F.B.I., has added a third in the shape of *D. paniculata* Kurz, non Roxb. The writer's *D. purpurea*, in this *Journal* (lxvi. 2. 449) rejected both *D. purpurea* Wall. and *D. volubilis*, and is restricted to Kurz's plant, for which in any case therefore a new name would have had to be provided had this not already fortunately been done by Mr. Gamble.

42. *DALBERGIA PRAZERI* Prain, *Journ. As. Soc. Beng.* lxvi. 2. 452 (1897).

BURMA: Shan Hills at Koni, *Prazer! SIAM: Teysmann 52!*

Very closely related to *D. Oliveri*, "Tamalan" or "Tabou-ben" and to *D. stipulacea* "Donk-ta-loung-nway," having the pods of the former but in foliage more resembling the latter.

43. *DALBERGIA HEMSLEYI* Prain, *Journ. As. Soc. Beng.* lxi. 2. 450 (1897).

BURMA: Shan Hills, Collett! Prazer! King's Collector!

44. *DALBERGIA BALANSE* Prain. A tree 20-30 feet high. Leaves 13-18 cm. long, leaflets 13-15, ovate-oblong, obtuse or retuse, persistently puberulous beneath, chartaceous, finely reticulately veined, 3-4 cm. long, 2 cm. wide, rachis 10-15 cm. and petiolules 4 mm. long puberulous; stipules lanceolate. Flowers in lax axillary panicles 8-10 cm. long, 5 cm. wide, with glabrescent peduncles and slender puberulous pedicels, bracts ovate-lanceolate and 2 lanceolate obtuse bracteoles under the calyx very caducous. Calyx campanulate, the upper teeth subconnate obtuse and lateral subacute half as long as tube, lowest lanceolate as long as tube. Corolla white, standard orbicular 2-callose at base. Stamens in 2 phalanges of 5 each. Ovary densely pubescent; ovules usually 3. Pod long-stipitate, tapering to both ends, usually 1-, rarely 2-3-seeded, coriaceous, reticulated opposite the seed, 8-12 cm. long, 3.5 cm. wide. Seeds subreniform, compressed. *D. lanceolaria* Hemsl., *Journ. Linn. Soc.* xxiii. 193 (1887); *Drake del Castillo, Journ. de Bot.* v. 214 (1891) not of Linn. f.

CHINA: Kwangtung, Sampson! Ford! Kiu-Kiang, Shearer! Millett!

TONKIN: Mt. Bavi, Balansa 2289!

45. *DALBERGIA VOLUBILIS* Roxb. *Cor. Pl.* ii. 48, t. 191 (1798); *Hort. Beng.* 98 (1814); *DC. Prodr.* ii. 417 (1825); *Spreng. Syst.* iii. 193 (1826); *Roxb. Flor. Ind.* iii. 231 (1832); *Wall. Cat.* 5874 (1832); *W. & A. Prodr.* i. 265 (1834); *Grah., Cat. Bomb. Pl.* 55 (1839); *Benth. Journ. Linn. Soc.* iv. *Suppl.* 46 (1860); *Dalz. & Gibs. Bomb. Flor.* 78 (1861); *Brandis, For. Flor.* 152 (1874); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 235 (1876); *Kurz, For. Flor. Brit. Burm.* i. 346 (1877); *Talbot, Bombay List* 75 (1894); *Prain, Journ. As. Soc. Beng.* lxi. 2. 114 (1897). *D. confertiflora* Benth., *Journ. Linn. Soc.* iv. *Suppl.* 41 partly, both the Oudh and the Concan plants (1860) not of Benth. in *Pl. Junghuhn.*; *Bak. in Hook. f. Flor. Brit. Ind.* ii. 233 partly (1876); *Talbot, Bombay List* 75 (1894). *D. foliacea* Wall. *Cat.* 5856 partly (1832). *D. purpurea* Benth., *Journ. Linn. Soc.* iv. *Suppl.* 46 partly (1860); *Bak. in Flor. Brit. Ind.* ii. 235 partly (1876) not of Wallich. *D. stipulacea* Gamble, *Darjeeling List* 29 partly (1896) not of Roxb.

N. INDIA: Oudh, Wallich! Duthie! W. Duars, Gamble 6683! Terai, Anderson! Clarke! Kamaon Bhabar, 1000 ft., Strachey and Winterbottom 2! Behar, Kurz! Campbell! Ball! Chota Nagpur, T. Anderson! Thomson! Wood! Clarke! C. INDIA: Sagor, Jerdon! C. Provinces, Duthie! W. INDIA: N. Canara, Talbot! Concan, Stocks! Malabar, Stocks! S. Canara, Metz (Hohenacker 561)! S. INDIA: Circars,

Roxburgh! Bolimpati, *Wight!* Travancore, *Lawson!* Kurnool, *Gamble!* Ganjam, *Gamble!* ASSAM: Goalpara, *Clarke!* Garo Hills, *Watt!* CHITTAGONG: Thanacheri, etc. *Hooker & Thomson!* *Gamble!* *Lister!* *King's Collector!* BURMA: Chin Hills, *Prazer!* *King's Collector!* Kachin Hills, *Prain's Collector!* Bhamo, *J. Anderson!* Shway Yoe, *J. Anderson!* Pegu, *Brandis!* *Kurz!* Shan Hills, *Collett!* *Prazer!* *King's Collectors!* Tenasserim, *Wallich* 5856 B! *Oleghorn!* *Gallatly!* *Helper* 1805! ANDAMANS: S. Andaman, very common, *King's Collectors!*

46. *DALBERGIA FERRUGINEA* *Roxb. Hort. Beng.* 98 (1814); *Flor. Ind.* iii. 223 (1832); *Miq. Flor. Ind. Bat.* i. 1. 133 (1855). *D. luzonensis* *Vog. Nov. Act. Nat. Cur.* xix. *Suppl.* i. 33 (1843); *Benth, Journ. Linn. Soc.* iv. *Suppl.* 48 (1860). *D. penduliflora* *Blume ex Miq. loc. cit.* (1855). *D. stipulacea* *Benth. loc. cit., partly* (1860) *not of Roxb.*

MALAYA: Brit. N. Borneo, Bangi island at Pankalan, *Fraser* 274! Moluccas, at Tidore, *Christian Smith!* *Teysmann* 5186! Buru, *Buitenzorg Collectors!* Ceram, *Teysmann* 5043! *Foerster!* Ceram Laut, *Warburg* 20309! NEW GUINEA; Dutch N. G. at Sigar, near the coast, *Warburg* 20313! Andai, *Beccari* 554! 693! PHILIPPINES: Manilla, *Meyen!* Sawar, *F. Jagor* 945! Luzon, *Vidal* 2598! Panay, *Vidal* 2606!

47. *DALBERGIA STIPULACEA* *Roxb., Hort. Beng.* 53 (1814); *Flor. Ind.* iii. 233 (1832); *Wight, Icones* t. 453 (1840); *Voigt, Hort. Suburb. Calcutt.* 241 (1845); *Miq. Flor. Ind. Bat.* i. 1. 133 (1855); *Benth., Journ. Linn. Soc.* iv. *Suppl.* 47 (1860); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 237 *excluding the syns.* *D. ferruginea* and *D. rostrata* (1876); *Kurz, For. Flor. Brit. Burm.* i. 346 (1877); *Gamble, Darjeeling List* 29 (1896); *Prain, Journ. As. Soc. Beng.* lxvi. 2. 451 (1897). *D. tingens* *Ham. in Wall. Cat.* 5860 (1832). *D. cassioides* *Wall. Cat.* 5863 (1832). *D. livida* *Grah. in Wall. Cat.* 5866 (1832).

EASTERN HIMALAYA: Sikkim, lower Hills and Terai, *Hooker!* *Kurz!* *Anderson!* *Clarke!* *Gamble!* *King!* *Prain!* Bootan and Duars, *Gamble!* *Lister!* *Haines!* ASSAM: Brahmaputra Valley, *Hamilton!* *Jenkins!* *Simons!* *Clarke!* *Mann!* *Fisher!* *Peal!* Naga Hills, *King's Collector!* *Watt!* *Prazer!* *Prain's Collector!* Garo Hills, *Clarke!* Khasia Hills; *Hooker & Thomson!* *Clarke!* Manipur, *Watt!* Silhet, *deSilva!* *Clarke!* CHITTAGONG: Kodala, *King's Collector!* BURMA: Kachin Hills, *Prain's Collector!* Hukuang, *Griffith!* Chin Hills, *Prazer!* Kalay Hills, *Prazer!* Shan Hills, *King's Collector!* Pegu, *McClelland!* *Kurz!* *Brandis!* Tenasserim, *Wallich!* *Gomez!* *Brandis!* *Helper!* *Gallatly!* *Oleghorn!* *Falconer!*

This species does not, as Mr. Baker supposes, extend to Malaya. The reason for the belief was the tentative reduction to this species by Mr. Bentham of the very different *D. ferruginea* *Roxb.*, which was based on Moluccan specimens. *D. rostrata* *Grah.*, also reduced here, is the very different species described by Thwaites as

D. Championii and previously described by Miquel as *D. pseudo-Sissoo* and also as *D. Sissoo*.

III. TRIPTOLEMEA Benth.

5. *Triptolemeæ* varæ.

48. DALBERGIA CONFERTIFLORA Benth., *Pl. Junguhn.* i. 255 (1854); *Journ. Linn. Soc.* iv. *Suppl.* 41 (1860); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 233 (1876); *Prain, Journ. As. Soc. Beng.* lxvi. 2. 114 (1897). *D. paniculata* Wall. *Cat.* 5848 partly (1832); *letters E.G.I.* *D. rubiginosa* Kurz, *For. Flor. Brit. Burma* i. 347 (1877) not of Roxb.

EASTERN HIMALAYA: Daphla Hills, *Lister!* ASSAM: Khasia Hills, *Simons!* Silhet, *Wallich!* CHITTAGONG: at Kasalong, *Lister!* *Clarke* 19744! Thandacheri, *King's Collector!* BURMA: Pegu, *Kurz!* ANDAMANS: S. Andaman, very common, *E. H. Man!* *King's Collectors!*

The Western India locality cited for this species by Bentham and Baker is erroneous; all the specimens from the Concan so named by them are *D. volubilis*.

49. DALBERGIA COLLETTII Prain, *Journ. As. Soc. Beng.* lxvi. 2. 445 (1897).

BURMA: Shan Hills, *Collett* 591! 723!

The writer has erroneously described this as a tree; it is a large climber.

50. DALBERGIA MIMOSOIDES Franch. *Pl. Delavayanæ* 187 (1890). *D. Milletti* Prain, *Journ. As. Soc. Beng.* lxvi. 2. 446 (1897) hardly of Benth. *D. tamarindifolia* Roxb. *Flor. Ind.* iii. 223 in part (1832); *Wight, Icon.* t. 242 as to fruit only (1840).

KHASIA Hills; at 1-2000 ft. elev., *Mann!* Shampung, 4000 feet, *Collett!* Sohra, 4500 feet, *Gallatly!* *Clarke* 18845! Maoksandram, 4000 feet, *Clarke* 42875! CHINA: Yunnan, in woods above Tapintze, *Delavay* 1982! Szechuen, near Tatchieuulu, 9000 feet, *Pratt* 275.

This is very near *D. Milletti* from Hongkong and was in 1897 referred to that species by the writer. An opportunity, most obliging furnished by MM. Bureau and Franchet, of examining the type of M. Franchet's *D. mimosoides* shows that the Khasia plant is exactly the same as the Yunnan and Szechuen one and that the latter is probably best treated as specifically distinct from *D. Milletti*.

It may be mentioned in passing that *Dalbergia Delavayi* Franch., also kindly lent for study, does not belong to this genus but is a *Cladrastis*, *C. Delavayi*, hardly different from *C. sinensis* Hemsl.

51. DALBERGIA STENOPHYLLA Prain. A climber with lenticelled glabrous branches. *Leaves* 6-8 cm. long; leaflets 30-35, small, linear-oblong, obtuse, glabrous above, finely sparingly adpressed-puberulous beneath, rather close-set, 1 cm. long, 3 mm. wide, rachis 5.5-7 cm. long and very short petiolules glabrous. *Flowers* small, secund, in axillary paniced cymes 3-5 cm. long, 1.5-4 cm. wide, peduncle, branches and short pedicels finely puberulous, bracts and 2 bracteoles at base of calyx

embracing lower third of tube ovate, persistent, small. *Calyx* 2.5 mm. long, campanulate, teeth short, obtuse, one-third as long as tube except the lower acute two-thirds the length of tube. *Corolla* white, 5 mm. long, claws of petals short. *Stamens* 9, monadelphous. *Ovary* stipitate, glabrous; ovules 3. *Pod* thinly coriaceous, narrowly oblong or ligulate, rarely ovate-acute; 2- or 1-seeded, 2-3 cm. long if one-seeded, 5 cm. long if 2-seeded; 1 cm. wide; rather distinctly reticulated throughout, not indurated opposite the seed.

CHINA: Hupeh, *Henry* 1355! 1950! 3852! 4135! 6188! Szechuen, Ky-min-se near Tchan-Keou, *Farges* 1075!

M. Farges gives the Chinese name of this as Kang-kin-ten. It is very nearly related to both *D. Milletti* and *D. mimosoides* but has narrower leaflets and much narrower pods than either.

52. DALBERGIA MILLETTI *Benth.*, *Journ. Linn. Soc.* iv. *Suppl.* 34 (1860); *Flor. Hongkong* 92 (1861). *D. polyphylla Benth.*, *Pl. Jungh.* i. 256 in part (1854); *Seem. Bot. Her.* 375 (1855). *Derris pinnata Lour. Flor. Cochín-Chín.* 432 (1793) possibly.

CHINA: Hongkong, *Hance* 1809! *Wilford!* *Ford!* *Champion!* Hupeh, *Henry* 3095! 6286! Yunnan, at Mengtze, 5000 feet, *Henry* 9975!

53. DALBERGIA HANCEI *Benth.* in *Journ. Linn. Soc.* iv. *Suppl.* 54 (1860); *Flor. Hongkong* 93 (1861).

CHINA: Hongkong, *Hance* 1810! *Ford!* *Wilford!* *Weiss!* Macao; *Calléry* in *Herb. Gaudichaud*, voy. Bonité! Near Canton, *Park* 35!

54. DALBERGIA THOMSONI *Benth.* in *Journ. Linn. Soc.* iv. *Suppl.* 33 (1860); *Bak. in Hook f. Flor. Brit. Ind.* ii. 236 (1876).

ASSAM: Patkoye Mts., *Griffith* 1799/1 K.D.! Khasia, *Hooker & Thomson!* *Clarke!*

This species is not a *Dalbergaria*, but a *Triptolemea*.

55. DALBERGIA SCORTECHINII *Prain*, *Journ. As. Soc. Beng.* lxvi. 2. 444 (1897). A shrubby climber 15-30 feet long with twining glabrous branches here and there twisted and thickened into spiral hooks. *Leaves* 15-20 cm. long, leaflets 11-15, elliptic, closely puberulous beneath, glabrous except midrib above, 1.5-4 cm. (rarely in young shoots 6 cm.) long, 1-2 (rarely 2.5) cm. wide, rachis 8-10 cm. long and petiolules 4 mm. long densely puberulous. *Flowers* minute, secund, in an ample terminal and in smaller axillary paniculate cymes 5 cm. wide and as long as the leaves; peduncles, branches and pedicels pubescent; bracts caducous; bracteoles persistent one at base of short pedicels lanceolate acuminate and two at base of calyx ovate obtuse embracing lower third of calyx-tube. *Calyx* 2.5 mm. long, campanulate, teeth short, obtuse, one-third as long as tube, except the acute lowest half as long as tube.

Corolla white, 4 mm. long, claws of petals short. *Stamens* 9, sub-3-adelphous, the central ob vexillary stamen being separated almost or quite to the base from the lateral groups of 4 each. *Ovary* pubescent, shortly stipitate; style short; ovules usually 3-4, sometimes only 2, rarely more than 4. *Pod* coriaceous, narrowed at both ends, 4-5 cm. long, 1.25 cm. wide, 1-3-seeded. D. *Junghuhnii* var. *Scortechinii* Prain, *Journ. As. Soc. Beng.* lxxvi. 2. 115 (1897).

MALAYA: Penang; Ayer Etam, *Curtis* 1437! Malacca; Bijong, *Scortechinii* 1830! *Maingay* 549 (Herb. Propr. 1554)! Singapore; Bukit Timah, *Ridley* 6406! Bangka; *Teysmann*! Java; Djampong, *Teysmann* 1418! Borneo; Sarawak, *Beccari* 2887! *Haviland* 2893!

56. DALBERGIA CURTISII Prain. A scandent shrub with puberulous branches. *Leaves* 15-18 cm. long; leaflets usually 7-9, oblong or elliptic, rounded obtuse and faintly emarginate at apex, cuneate rarely rounded at base, glabrous above, rather closely puberulous except on the midrib beneath, 3-5 cm. long, 2.5 cm. wide; rachis 11-12 cm. long and petiolules 4 mm. long puberulous. *Flowers* minute, secund, in large axillary panicles exceeding the leaves, peduncles branches and pedicels pubescent; bracteoles persistent, one at base of pedicel lanceolate, 2 at base of calyx ovate obtuse embracing the lower third of calyx-tube. *Calyx* 2.5 mm. long, campanulate, teeth short obtuse one-third as long as tube. *Corolla* white, 4 mm. long, claws of petals short. *Stamens* 9, monadelphous. *Ovary* pubescent; ovules 2-3. *Pod* thin, membranous, not seen ripe. D. *discolor* *Miq. Flor. Ind. Bat. Suppl.* 296 (1860) *nec Bl.* D. *Junghuhnii* *Bak. in Flor. Brit. Ind.* ii. 233 (1876) *partly*; Prain, *Journ. As. Soc. Beng.* lxxvi. 2. 115 (1897) *partly, not of Benth.*

MALAYA: Penang, 500 ft., *Curtis*! Malacca, *Maingay*! Sumatra; Lampongs, *Teysmann*!

This species is nearest to *D. stercoracea* *Maingay*, but in a note by *Maingay* himself it is remarked that, while this is the case, the two are very distinct. This has no trace of the foetid odour characteristic of *D. stercoracea*. The two species have been confused by Mr. Baker and myself with each other and also with *D. Junghuhnii*. *Miquel*, whose specimens I have seen, has named this *D. discolor*; it is, however, very unlike the Bornean species so named by *Blume*, and previously described by *Miquel* himself under *Blume's* name.

57. DALBERGIA STERCORACEA *Maing. Mss. in Herb. Kew.* D. *Junghuhnii* *Bak. in Hook. f. Flor. Brit. Ind.* ii. 233 *in part* (1876); Prain, *Journ. As. Soc. Beng.* lxxvi. 2. 115 var. *typica in part* (1897), *not of Benth.* D. *frondosa* *Miq. Flor. Ind. Bat.* i. 133 (var. *typica only and exclud. all synonyms*), (1855), *not of Roxb.*

MALAYA: Malacca, *Maingay*! *Mueller*! *Derry*! Singapore, *Hullett*! *Ridley*! Sumatra, *Korthals*!

This has been confounded with *D. Junghuhnii* Benth. by Mr. Baker and the writer. The fewer differently-shaped leaflets and the stercoreaceous odour of the flowers amply distinguish it. Miquel, whose Sumatra specimens of "*D. frondosa*" have been seen by the writer, has named it as above. Both *D. sennoides* Bl. and *D. phyllanthoides* Bl. have been included here by Miquel but authentic examples of these, named by Blume, have been seen by the writer and their true place is indicated under the latter species.

58. DALBERGIA MELANOXYLON *Guill. & Perr. Flor. Seneg. Tent.* 227, t. 33 (1834); *Benth., Journ. Linn. Soc. iv. Suppl.* 47 (1860). *D. Stocksii Benth., Journ. Linn. Soc. iv. Suppl.* 42 (1860); *Bak. in Hook. f. Flor. Brit. Ind. ii.* 234 (1876).

WESTERN INDIA: Concan, *Stocks!* Canara, *Talbot!* also at Poona, cult. *Woodrow!* Madras, cult. *Wight's Collector!* Calcutta, cult. *Thomson! Anderson! King!* etc. DISTRIB.—Africa, from Senegal to Abyssinia and Mozambique.

The examination of *Stocks'* specimens, and of some exactly like them from Canara in Mr. *Talbot's* herbarium, makes it certain that the plant termed *D. Stocksii* by *Bentham* is the African *D. melanoxyton*, as represented by many specimens in the Herbaria of Kew, the British Museum, Mr. de *Candolle* and Calcutta. The same species has been in cultivation at Calcutta at least since 1858, that being the earliest date on our herbarium specimens collected in the Gardens. At Madras it appears to have been in cultivation about as long. There is nothing about *Stocks'* specimens to indicate whether that botanist considered the tree indigenous or introduced, but the note by Mr. *Talbot* that the plant is known in Western India as "Chinese Blackwood," as opposed to *D. latifolia* or "Bombay Blackwood," points to a foreign origin.

59. DALBERGIA MULTIFLORA *Heyne ex Wall. in Cat. sub. n.* 5848 (1832). *Dalbergia sympathetica Nimmo in Grah. Cat. Bomb. Pl.* 55 (1839); *Voigt, Hort. Suburb. Calcutt.* 241 (1845); *Benth., Pl. Jungh.* 255 (1854); *Journ. Linn. Soc. iv. Suppl.* 42 (1860); *Dalz. & Gibs., Bomb. Flor.* 78 (1861); *Bak. in Hook. f. Flor. Brit. Ind. ii.* 234 (1876); *Talbot, Bomb. List* 75 (1894). *D. frondosa Wall. Cat.* 5855 partly (1832); *W. & A. Prodr.* 266 partly (1834), not of *Roxb.* *D. paniculata Wall. Cat.* 5848 partly (1832), not of *Roxb.*—Anamullu *Rheede, Hort. Malabar.* viii. 40.

WESTERN INDIA: Concan, *Stocks!* *Kuntze!* Canara, *Talbot!* Mysore, *Heyne!* *Wight!* Travancore, *Lawson* 205!

VAR. *glabrescens Prain*; leaflets glabrous above, glabrescent or sparingly pubescent beneath.

SOUTHERN INDIA: Carnatic, *Wight* 819 K.D.! *G. Thomson!* Courtal-lam, *Wight* 267! Travancore, *Lawson* 218!

In 1897 the writer pointed out in this *Journal* (vol. lxxvi. pt. 2, p. 446) that *Wallich's* n. 5848 B (from *Herb. Heyne*) is this species and not, as *Wallich* erroneously supposed, *D. paniculata*. Working subsequently through the British Museum

collection the writer discovered a note on a sheet of *D. sympathetica* Nimmo, from Herb. Wight in Herb. Shuttleworth, in Mr. Bentham's handwriting, which shows that that learned botanist had already made this discovery. The note is as follows:— "This is a distinct species for which Heyne's name *D. multiflora* may be retained "unless it turns out be one of Roxburgh's. I have it in flower from Arnott who, in "his Prodrômus, appears to have confounded it with *D. frondosa*. He had it not then "in flower."

This being the *Amerimum horridum* of Dennstedt [*Schlüs. Hort. Malabar.* 34 (1818)] it ought perhaps to receive the name *Dalbergia horrida*; the objection to using this name is the existence of a synonym *D. horrida* Grah. which is the equivalent of *D. spinosa* Roxb.

60. DALBERGIA PHYLLANTHOIDES *Blume ex Miq. in Flor. Ind. Bat. i. 1. 134 (1855).*

VAR. *typica*; leaflets membranous. *D. frondosa* *Miq. VAR. β. Flor. Ind. Bat. i. 1. 134 (1855).* *D. polyphylla* *Benth. Mss. in Herb. Kew (Journ. Linn. Soc. iv. Suppl. 34 partly) not of Pl. Junghuhn.*

MALAYA: Java, *Blume! Nagel 387! Borneo, Barber! Motley 32!*

VAR. *sennoides* *Prain*; leaflets firmer, larger. *D. sennoides* *Bl. ex Miq. Flor. Ind. Bat. i. 1. 134 (1855).* *D. Junghuhnii* *Benth., Journ. Linn. Soc. iv. Suppl. 33 in part (Malacca plant only) (1860); Bak. in Hook. f. Flor. Brit. Ind. ii. 233 partly (1876), not of Benth. in Pl. Junghuhn.* *D. subsympathetica* *Prain, Journ. As. Soc. Beng. lvi. 2. 116 (1897).* *D. littoralis* *Hassk. Mss. in Herb. Hort. Bog.*

MALAYA: Perak, *Scortechini 201! 1071! Wray 2086! 3205! Kunstler 2354! 3562! 4978! 5182! Penang, Curtis 1492! Malacca, Griffith! Goodenough! Jagor! Maingay! Java, cult. in Hort. Bogor.*

The opportunity of examining authentic examples of Blume's and Miquel's specimens in the Leiden Herbarium, kindly afforded by the late Prof. Suringar, has permitted a settlement of the confusion in synonymy connected with this species, the validity of which the writer had already established in 1897.

61. DALBERGIA JUNGHUHNII *Benth., Pl. Jungh. i. 254 (1854); Miq. Flor. Ind. Bat. i. 1. 129 (1855); Benth., Journ. Linn. Soc. iv. Suppl. 33, in part and as regards the Sumatra locality only (1860).*

MALAYA: Sumatra, at 3000 ft. elev., *Junghuhn. 233! Java, de Vriese!*

62. DALBERGIA COROMANDELIANA *Prain.* An erect glabrous shrub, the ultimate branches distichous, horizontal, rigid, spinous. *Leaves* fasciculate, 3-4 cm. long, leaflets 7-9, elliptic or cuneate-oblong, retuse, 6-9 mm. long, 3-5 mm. wide, glabrous even when young on both surfaces, rachis 2.5-3.5 cm. long, puberulous when young, soon glabrous; petiolules 1 mm. long, glabrous. *Flowers* minute, secund, in small recurved fascicled cymes, rachis puberulous, 1-1.5 cm. long, pedicels 3 mm. long, glabrous; bracteoles caducous, one at base of pedicel lanceolate, 2 at base of calyx ovate, subacute, embracing lower third of calyx-tube. *Calyx* 2.5 mm.

long, campanulate, teeth short, obtuse, one-third as long as tube. *Corolla* white, 4 mm. long, claws of petals short. *Stamens* 9—10, monadelphous, diadelphous, or 3-adelphous the ob vexillary stamen being free. *Ovary* glabrescent; ovules 3—4. *Pod* thinly coriaceous, distinctly wide-reticulate throughout, quite glabrous, narrow-ovate, 3.5 cm. long, 1.5 cm. wide, distinctly stipitate and cuneate at base, subacute at apex, 1-seeded. *D. spinosa* W. & A. *Prodr.* i. 266 (1834), *not of Roxb.*

SOUTHERN INDIA: exact locality not stated, *Wight* 798 (821 K.D.) flower! *Shevaghiri Hills, Wight* 822 K.D. fruit!

Though much like *D. spinosa* in general appearance this is very distinct even as regards leaves and flowers, and is wholly distinct as regards fruit. Its nearest ally is in reality *D. multiflora*, but the much smaller cymes with much longer pedicels, and the much smaller quite glabrous pod amply distinguish it. The leaflets too are much smaller and fewer than in *D. sympathetica* so that it is easily distinguished, even by its foliage, from *D. sympathetica* var. *glabrescens* where, as in this, the leaflets may be glabrous. The spines of this plant are straight as in *D. spinosa*. The stamens, as in the case of *D. melanoxyton*, may be variously monadelphous, diadelphous or 3-adelphous.

63. DALBERGIA DISCOLOR *Bl., Miq. Flor. Ind. Bat.* i. 1. 130 (1855); *Benth. in Journ. Linn. Soc. iv. Suppl.* 41 (1860).

MALAYA: Borneo, southern coasts, *Korthals!* Celebes, *Teysmann* 12539!

This species has been tentatively placed by *Bentham* near *D. foliacea*; it is most nearly related to *D. rimosa*.

64. DALBERGIA RIMOSA *Roxb. Hort. Beng.* 53 (1814); *DC. Prodr.* ii. 417 (1825); *Roxb. Flor. Ind.* iii. 233 (1832); *Wall. Cat.* 5853 (1832); *Wight Ic.* t. 262 (1840); *Voigt, Hort. Suburb. Calcutt.* 241 (1845); *Benth., Journ. Linn. Soc. iv. Suppl.* 32 (1860); *Brandis, For. Flor.* 148 (1874); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 232 (1876). *D. foliacea* *Wall. (pro parte) Cat.* 5856 B; *Gamble, Darjeeling List,* 29 (1896), *nec Wall. Dalbergia sp. Drake del Castillo, Journ. de Bot.* v. 215 (1891).

SIKKIM: Lower Hills, Terai and Duars; *Hooker! King! Gamble! Gammie! Haines!* ASSAM: Brahmaputra Valley; *Jenkins! Simons! Mann! King's Collectors! Masters! Peal! Silhet; Wallich! Clarke! Cachar; Prazer! Khasia; Griffith 1801! Hooker & Thomson! Clarke! Mann! Gallatly! Naga Hills; Clarke! Watt!* BURMA: Kachin Hills, *Prain's Collectors!* TONKIN: Black river, *Balansa* 2293!

The Tonkin specimens have the leaflets glabrous beneath and the venation slightly different from that in the leaves of typical *D. rimosa*.

65. DALBERGIA FORBESII *Prain.* A moderately large climbing shrubs with glabrous branches. *Leaves* 13—18 cm. long, leaflets usually 5, ovate-acuminate, base rounded, thinly coriaceous, closely finely reticu-

late, glabrous on both surfaces the terminal exceeding the others, 4–9 cm. long, 2–4 cm. wide, rachis 6·5–9 cm. long and petiolules 5 mm. long glabrous. *Flowers* numerous small, secund, in dichotomous cymes disposed in terminal corymbose wide panicles extending into the axils of the upper leaves, 12–15 cm. long, 8–10 cm. wide, shortly pedicelled, 2-bracteolate below the calyx, bracteoles persistent. *Calyx* campanulate, 5-toothed, teeth all obtuse, subequal, rather shorter than the tube. *Corolla* white, the petals rather distinctly clawed; standard orbicular, subauriculate, slightly emarginate. *Stamens* 9, in a sheath slit along the back; sometimes a free vexillary stamen present. *Ovary* glabrous, shortly stipitate, style short; ovule solitary. *Pod* distinctly stipitate, coriaceous, oblong, glabrous, veined opposite the seed, 4–6 cm. long, 2 cm. wide, 1-seeded. *Seed* reniform, much compressed. *D. parviflora* Prain, *Journ. As. Soc. Beng.* lxvi. 2. 121 (1897) *in part, not of Roxb.*

MALAYA: Lingga, *Teysmann!* Bigni Telok, 3500 feet, *Forbes* 3216! *Warburg* n. 20310, in Herb. Berol., leaf-specimens from the Aru Islands, appears the same.

This the writer in 1897 supposed to be a form of *D. parviflora*, but the opportunity of examining its fruits, afforded by the kindness of Dr. Treub, who lent the Herbarium material of *Dalbergia* from Buitenzorg, shows that this is a very distinct species.

66. *DALBERGIA ALBERTISII* Prain. A climbing shrub; young branches terete. *Leaves* 18–20 cm. long; leaflets 8–9, lateral distinctly alternate, very dark-green and quite glabrous on both surfaces, firmly coriaceous, midrib impressed above, prominent beneath, secondary nerves faint especially above, rather numerous, ovate-acute with rounded base, terminal rather the largest, 7 cm. long, 3·25 cm. wide; rachis 14–16 cm. long, and petiolules 3 mm. long glabrous. *Flowers* minute, secund, in ample terminal thyrsoid panicles, with sparsely puberulous, zigzag rachis 12 cm. long, giving off at each angle stoutish, horizontal branches 2·5 cm. long, breaking at their tips into 2 or more reflexed cyme-branches; bracts and bracteoles minute, deciduous. *Calyx* 1·5 mm., teeth short obtuse. *Corolla* and *stamens* not seen. *Pod* thin, membranous, green, suborbicular apiculate and 1-seeded, rarely oblong and 2-seeded, slightly cuneate at the base, 2·5–4 cm. long, 2 cm. wide, 2 mm. thick, finely puberulous, rather distinctly wide-reticulate throughout, with a short but distinct stipe 4 mm. long.

NEW GUINEA: Fly River, *D'Albertis!*

A very distinct species with the inflorescence of the group to which *D. multiflora* and *D. Junghuhnii* belong, but differing in the bracteoles not being persistent and still more in foliage. Its nearest ally is *D. Forbesii* from Sumatra, a species with much thinner leaves.

6. *Triptolemeæ Pseudoselenobieæ.*

67. DALBERGIA PARVIFLORA *Roxb. Hort. Beng.* 98 (1814); *Flor. Ind.* iii. 225 (1832); *Miq. Flor. Ind. Bat.* i. 1. 132 (1855); *Benth., Journ. Linn. Soc.* iv. *Suppl.* 33 (1860); *Prain, Journ. As. Soc. Beng.* lxxvi. 2. 121, *excl. syn.* *D. Cumingiana Benth.* (1897). *D. Zollingeriana* *Miq. Flor. Ind. Bat.* i. 1. 130 (1855). *D. Cumingii* *var. Zollingeriana Benth., Journ. Linn. Soc.* iv. *Suppl.* 32 (1860). *D. corymbifera* *Bl. ex. Miq. l.c.* (1855). *Drepanocarpus Cumingii* *Kurz, For. Flor. Brit. Burma* i. 336 (1877).

BURMA: Tenasserim, *Helfer* 1808! MALAYA: Dindings, *Curtis!* Pahang, *Ridley!* Perak, *Wray* 2525! *Kunstler* 1423! 5937! 6151! Sumatra, *Zollinger* 3041! *Teysmann* 4440! Java, *Blume* (type of *D. corymbifera*)! *Teysmann!* Borneo; Sarawak, at Bintulu, *Beccari* 3601! at Sungei Mahan, *Beccari* 3585! at Santubong, *Beccari* 2149! Celebes, *Zollinger* (type of *D. Zollingeriana* *Miq.*)! Halmahera, *Teysmann* 5668! Moluccas; Amboina, *C. Smith!*

Possibly this is cultivated in Tenasserim. The original ticket of *Helfer's* n. 1808 shows that it came from Tenasserim not the Andamans; it was found at the 3rd Camp from Tenasserim in clearings in a native garden.

This yields the Kayoe Lakka of commerce. *Beccari* describes it as a spiny climbing shrub, the spines woody and branched. Its Malay name is Acor Berangan. Old stems stripped of alburnum and dead are reddish (*rosso-ciliégio*) and are termed Caju Lacca—used by the Chinese in their ceremonies with other odoriferous woods. The opportunity of examining good specimens of *Cuming's* n. 1244 in Herb. De Candolle and of studying the fine suite of specimens of *D. Cumingiana* in Herb. Kew has enabled the writer to see that the two species, though united by Mr. *Bentham*, are very distinct.

68. DALBERGIA CUMINGIANA *Benth., Pl. Junghuhn.* 255 (1854); *Miq. Flor. Ind. Bat.* i. 1. 129 (1855). *D. Cumingii* *Benth., Journ. Linn. Soc.* iv. *Suppl.* 32, *excl. var. Zollingeriana* (1860).

PHILIPPINES: Luzon, *Cuming* 1244! *Vidal* 735! Pili, *Vidal* 1255! Catarman, Isd. of Samar, *Vidal* 255!

69. DALBERGIA GODEFROYI *Prain.* A woody climber, branchlets subdistichous, recurved, puberulous. *Leaves* 7–8 cm. long, leaflets 6–9, wide ovate, firmly papery, finely puberulous on both surfaces, base rounded, apex rounded or slightly emarginate, 1.5–3 cm. long, 1–1.75 cm. wide, rachis 4–5 cm. long and petiolules 2.5 mm. long puberulous. *Flowers* in axillary, subsimple racemes forming terminal, leafy panicles, rachis puberulous. *Calyx* campanulate, in fruit glabrescent or puberulous, pedicels 2.5 mm. long, teeth subequal, obtuse, shorter than tube except the lowest lanceolate about as long as tube. *Petals* and *stamens* not seen. *Pod* obliquely subreniform, thinly woody, 2 cm. long, 1.25 cm. wide, 4 mm. thick, finely closely velvety externally, with a flattened

stipe 5–1.25 cm. long, also velvety, and ovuligerous in its upper part. *Seed* compressed, reniform, 8 mm. long, 4 mm. wide.

SIAM: South-west of the Great Lake, *Godefroy* 288!

A very distinct species, evidently belonging to the same group as *D. Cumingiana* and *D. parviflora*, but well-marked by its closely finely velvety pods.

70. DALBERGIA BECCARII *Prain*. A climbing shrub with slender, terete, densely finely pubescent branches. *Leaves* sub-2-farious, 3–4 cm. long, leaflets 11–19, oblong, slightly emarginate at the apex, dark-green above rather paler beneath, finely pubescent on both surfaces, 8 mm. long, 4 mm. wide; rachis 3.5 cm. long and very short petiolules pubescent; stipules lanceolate, 2 mm. long. *Flowers* very minute, secund, in small cymes in the lower leaf-axils, under 1 cm. wide; rachis and pedicels puberulous; bracts and bracteoles deciduous, very minute. *Calyx* 1.5 mm. long, campanulate, teeth short, obtuse, one-third as long as tube except the lower acute three-fourths the length of the tube. *Corolla* not seen. *Stamens* monadelphous. *Ovary* glabrous. *Pod* firm, thickish, pale-brown, coriaceous, glabrous, 1-seeded, irregularly ovate, apiculate, 1.25 cm. long, 8 mm. wide, 2.5 mm. thick, with a short but distinct stipe 2.5 mm. long. *Ormocarpum scandens* *Teysm. Mss. in Herb. Beccari*.

BORNEO: Sarawak, Kuching, *Beccari* 566! 1105! Kapuas, *Teysmann* 8254!

71. DALBERGIA SPINOSA *Roxb. Hort. Beng.* 98 (1814); *Flor. Ind.* iii. 226 (1832); *Voigt, Hort. Suburb. Calcutt.* 241 (1845); *Benth., Journ. Linn. Soc. iv. Suppl.* 49 excluding citation *Wight* 798 (1860); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 238 excl. ref. *W. & A. Prodr.* (1876); *Talbot, Bombay List* 75 (1894). *D. horrida* *Grah. in Wall. Cat.* 5877 (1832); *Drepanocarpus spinosus* *Kurz, For. Flor. Brit. Burma* i. 337 (1877).

S. INDIA: Arcot, *Gamble* 18212! Madras, *Heyne* (*Wallich, Cat.* 5877 B)! W. INDIA: Concan, coast, fide *Talbot*. BENGAL: Sundribuns, *Kurz! Clarke! Ball! Heinig! Griffith* 1811! CHITTAGONG: coast, *Roxburgh*. BURMA: Rangoon, *Kurz* 1762! Moulmein, *Wallich!*

III. SELENOLOBIUM *Benth.*

7. *Selenolobiæ Pseudodalbergariæ.*

72. DALBERGIA RENIFORMIS *Roxb. Hort. Beng.* 53 (1814); *Flor. Ind.* iii. 226 (1832); *Wight, Icones* i. 261 (1840); *Bak. in Hook. f. Flor. Brit. Ind.* ii. 238 (1876). *D. flexuosa* *Grah. in Wall. Cat.* 5875 (1832); *Benth., Journ. Linn. Soc. iv. Suppl.* 48 (1860). *D. stipulata* *Wall. Cat.* 5868 partly (1832). *Drepanocarpus reniformis* *Kurz, For. Flor. Brit. Burma* i. 336 (1877).

ASSAM: *Smith (Herb. Roxb.)! Silhet, deSilva! Clarke* 42711!

Cachar, *Prager* 149! BURMA: Pegu, *Kurz* 1785! 2608! *Brandis*! Tenasserim, *Oleghorn*! *Falconer*! *Gallatly*! *Beddome*!

An original example of *D. reniformis*, so named by Roxburgh himself, is preserved in the Brit. Mus. collection. The stamens in this species are isodiadelphous.

8. *Selenobieze Pseudosissoe.*

73. DALBERGIA FALCATA *Prain.* A climbing shrub; young branches angular, rusty-puberulous, their bases beset with ovate-acute, subcoriaceous bracts 2.5 mm. long. *Leaves* 10–16 cm. long, leaflets 5–9, the lateral ones approximate but hardly ever opposite, dark-green above, pale beneath, glabrous above, finely sparsely adpressed-pubescent beneath, chartaceous, ovate shortly abruptly acuminate, the terminal 7–8 cm. long, 3 cm. wide, progressively smaller downwards, midrib rather prominent beneath, secondary veins 6–8 pairs fine but distinct beneath, as are the reticulations; rachis 4.5–10 cm. long, and petiolules 3–4 mm. long glabrous; stipules lanceolate, slightly striate within, pubescent externally, 8 mm. long. *Flowers* in axillary panicles 6–8 cm. long, with spreading rusty-puberulous branches, bracts and bracteoles deciduous, pedicels 2.5 mm. long. *Calyx* 3 mm. long, teeth lanceolate except the upper, the lowermost as long as the tube. *Corolla* not seen. *Stamens* monadelphous. *Ovary* rusty-pubescent. *Pod* finely puberulous, at length glabrescent, rigid, falcate, not very greatly thickened, 1–2-seeded, 3 cm. (when 2-seeded 5.5 cm.) long, 1.75 cm. wide, 6 mm. thick, with a distinct, slender, puberulous stipe 8 mm. long, dark-brown when ripe, with narrow grey lines alongside the ventral suture.

BORNEO: Bintulu, *Beccari* 4027! Sarawak, *Beccari* 67!

A very distinct member of the group to which *D. reniformis* and *D. Kunstleri* belong.

74. DALBERGIA KUNSTLERI *Prain, Journ. As. Soc. Beng.* lxvi. 2. 121 (1897) and 453 (1897).

MALAYA: Perak, *Kunstler* 4736! 7067!

This is obviously very closely related to *D. reniformis* but it has, if not always, at least usually monadelphous stamens.